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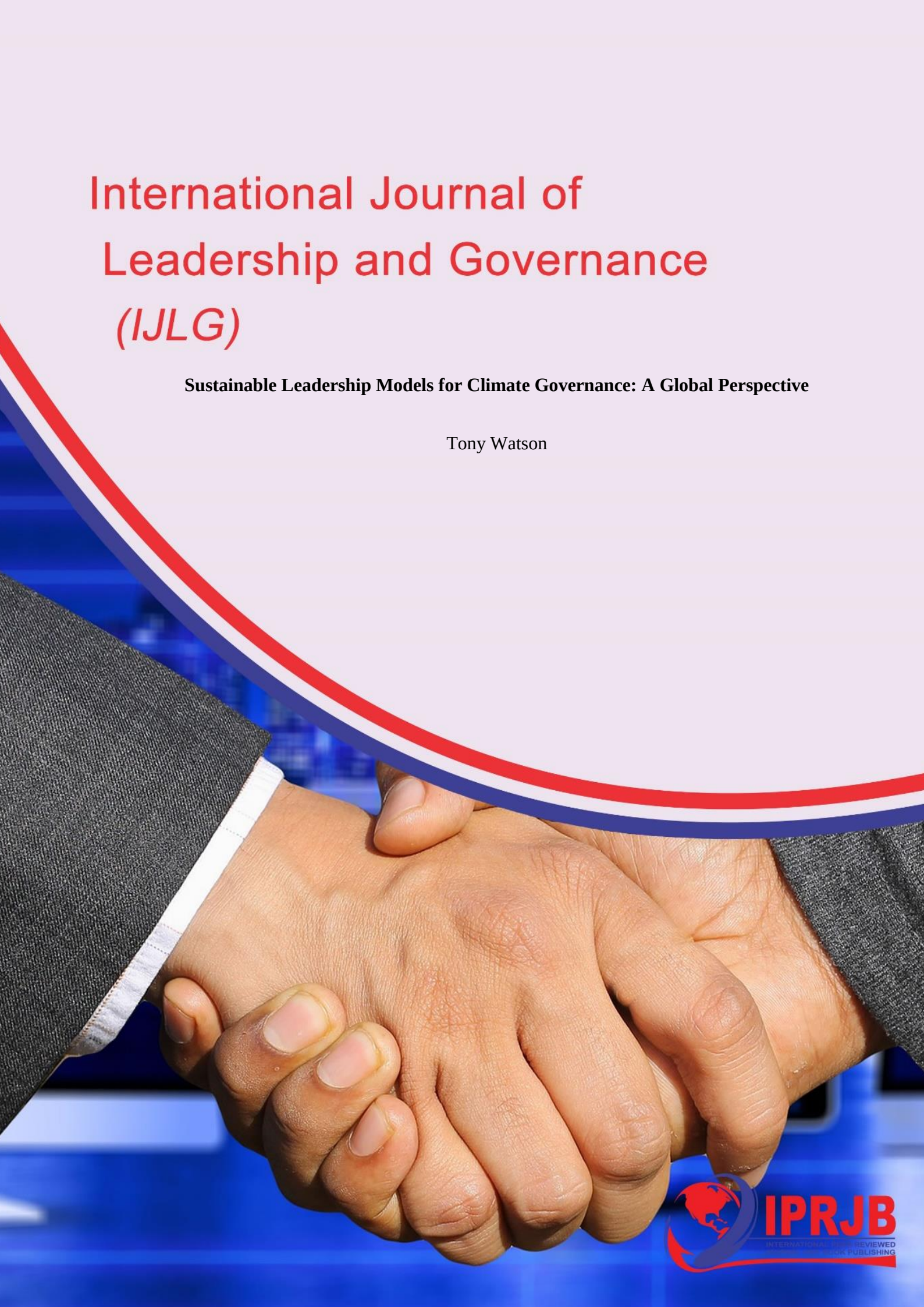

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Sustainable Leadership Models for Climate Governance: A Global Perspective

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Abstract

Purpose: The general objective of this study was to examine sustainable leadership models for climate governance.

Methodology: The study adopted a desktop research methodology. Desk research refers to secondary data or that which can be collected without fieldwork. The study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

Findings: Preliminary empirical review revealed that that sustainable leadership was essential for effective climate governance, requiring adaptive, inclusive, and long-term strategies. Leadership gaps, especially in resource-limited regions, hindered global progress, highlighting the need for collaborative and resilient leadership models.

Unique Contribution to Theory, Practice and Policy: The Transformational Leadership theory, Institutional theory and Stewardship theory may be used to anchor future studies on climate governance. The study recommended enhancing leadership theories, investing in leadership development, and embedding sustainable leadership into policies. Strengthening leadership capacity was crucial for advancing theory, improving practice, and ensuring resilient climate governance worldwide.

Keywords: *Sustainable Development, Government Policy, Public Goods, Corporate Culture, International Agreements*

Q01, Q58, H41, M14, F53

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1.0 INTRODUCTION

Climate governance refers to the systems, rules, and practices by which societies manage climate change risks, allocate responsibilities, and mobilize resources across various levels of government, private sector actors, and civil society. It encompasses formal legislation, policy frameworks, institutional arrangements, and informal norms that shape climate action (Jordan et al., 2018). As global warming intensifies, international and national governance efforts have increasingly intertwined, resulting in complex multi-level structures involving governments, international organizations, non-governmental organizations, and corporations. According to the United Nations Environment Programme (UNEP), the global average temperature is currently about 1.1°C above pre-industrial levels, highlighting the urgency for robust climate governance frameworks (Jordan, Huitema, van Asselt & Forster, 2018).

The United States represents a fragmented but dynamic example of climate governance, where federal inaction at times has been compensated by vigorous state and local actions. For instance, California has emerged as a leader through initiatives like the Global Warming Solutions Act (AB32), aiming to reduce greenhouse gas emissions to 1990 levels by 2020. Despite the federal withdrawal from the Paris Agreement under the Trump administration in 2017, over 4,000 U.S. cities, states, and businesses pledged to uphold Paris climate targets under the "We Are Still In" campaign (Hale, 2020). Furthermore, the Inflation Reduction Act of 2022 allocated approximately $369 billion toward clean energy initiatives, making it the largest investment in climate action in U.S. history (Hale, 2020). Nonetheless, emissions in the U.S. only decreased by about 13% from 2005 to 2022, far short of the 50% reduction target set for 2030.

The United Kingdom has positioned itself as a global leader in climate governance, setting ambitious legislative frameworks such as the 2008 Climate Change Act, which mandates a 100% reduction in net greenhouse gas emissions by 2050 compared to 1990 levels. The establishment of the Climate Change Committee (CCC) provided an independent advisory body to guide policymaking. Recent data reveal that the UK's carbon emissions in 2022 were 48% lower than 1990 levels, demonstrating significant progress (Fankhauser, Averchenkova & Finnegan, 2018). Initiatives like the Ten Point Plan for a Green Industrial Revolution and hosting the COP26 summit in Glasgow in 2021 further reinforced the UK's commitment. However, criticisms persist regarding insufficient investment in renewable energy and slow progress in decarbonizing heating and transportation sectors.

Japan's approach to climate governance is characterized by a strong emphasis on technological innovation and energy efficiency. Following the Fukushima nuclear disaster in 2011, Japan's energy mix shifted heavily toward fossil fuels, complicating its climate ambitions. Nevertheless, the Japanese government pledged in 2020 to achieve net-zero emissions by 2050. Data show that by 2022, Japan had reduced its greenhouse gas emissions by approximately 18.4% from 2013 levels (Sugiyama, 2021). Policies such as the Green Growth Strategy and the Carbon Neutrality Roadmap aim to leverage renewable energy, hydrogen technologies, and carbon capture systems. However, Japan continues to face criticism for its reliance on coal power and relatively slow transition toward renewable energy compared to other OECD nations (Sugiyama, 2021).

Brazil holds a paradoxical position in climate governance, given its stewardship over the Amazon rainforest, often called the "lungs of the Earth." While Brazil was once celebrated for curbing deforestation rates by 70% between 2004 and 2012, recent trends reveal troubling reversals. Under former President Bolsonaro's administration, Amazon deforestation increased

by 59.5% between 2019 and 2022, undermining Brazil's 2015 Paris Agreement commitments (Rajão, Soares-Filho, Nunes, Börner, Machado, Assis & Bustamante, 2020). Nevertheless, the current government under President Lula da Silva has pledged to reverse these trends, aiming for zero illegal deforestation by 2030. Climate governance in Brazil involves both federal initiatives, such as the National Climate Change Policy, and significant engagement with indigenous communities, although enforcement remains a critical challenge.

Sub-Saharan Africa presents a distinctive climate governance landscape, shaped largely by vulnerability to climate impacts rather than emissions responsibility. Despite contributing less than 4% of global emissions, the region experiences disproportionately severe consequences, including droughts, floods, and food insecurity. Countries like Kenya, South Africa, and Nigeria have developed national climate change policies and action plans. For instance, Kenya's Climate Change Act of 2016 institutionalizes climate-resilient development across sectors, while South Africa's 2022 Climate Change Bill seeks net-zero carbon emissions by 2050 (Ajayi, Mafongoya & Kativu, 2022). However, limited financial and technological resources impede comprehensive governance responses, underlining the importance of international climate finance mechanisms such as the Green Climate Fund.

Global trends in climate governance since 2015 indicate a significant uptick in national commitments, albeit with persistent implementation gaps. According to the Climate Action Tracker, as of 2023, only about 2% of assessed countries' policies align with the 1.5°C target set by the Paris Agreement. A growing number of countries, over 140, have pledged net-zero targets, covering nearly 90% of global emissions (Höhne, Gidden, den Elzen, Hans, Fyson, Geiges & Hare, 2021). However, without clear roadmaps, sectoral policies, and legal enforcements, many of these pledges remain aspirational. The failure of COP27 in Egypt to agree on stronger mitigation measures highlights the ongoing difficulties in reconciling national interests with global climate objectives.

Beyond governments, non-state actors such as cities, businesses, and NGOs have increasingly shaped the climate governance landscape. The Global Covenant of Mayors for Climate and Energy, involving over 10,000 cities worldwide, represents a massive collective effort toward emission reduction. Corporate commitments have also surged; by 2023, over 5,200 businesses and 1,000 financial institutions had joined the Science Based Targets initiative (SBTi) to set emission reduction targets. Nevertheless, questions about accountability, transparency, and greenwashing remain. Effective governance requires integrating these actors into formal national strategies while ensuring rigorous monitoring and verification processes (Chan, Falkner, Goldberg & van Asselt, 2018).

Despite advancements, several challenges inhibit effective climate governance. These include political resistance, insufficient funding, weak institutional capacity, and competing national interests. In the U.S., legal battles over the Clean Power Plan and environmental rollbacks under the Trump administration highlight the fragility of climate policy gains (Bäckstrand & Kuyper, 2017). In the UK, Brexit-induced economic uncertainties have diverted political attention from climate initiatives. In Sub-Saharan Africa, limited technological innovation and external debt burdens constrain climate action. Thus, while governance frameworks are evolving, significant structural reforms and increased international cooperation are needed to meet climate goals.

The future of climate governance hinges on deepening integration across scales—local, national, and global—and enhancing accountability mechanisms. Strengthening climate laws, investing in climate-resilient infrastructure, embedding climate justice principles, and

enhancing adaptive governance are emerging priorities. Innovations such as climate courts, carbon budgeting, and enhanced Nationally Determined Contributions (NDCs) offer hope for bridging governance gaps (Pattberg & Widerberg, 2016). Additionally, digital technologies like satellite monitoring and blockchain for transparency are being explored to enhance governance capacities. For meaningful global progress, climate governance must transition from voluntary pledges to binding, equitable, and enforceable commitments.

Sustainable leadership refers to leadership approaches that prioritize long-term systemic impact, social equity, environmental stewardship, and organizational resilience. Unlike traditional leadership models focused predominantly on short-term achievements and profit maximization, sustainable leadership embraces ethical practices, stakeholder inclusivity, and future-oriented planning. A sustainable leader acts as a catalyst for systemic change, fostering practices that balance economic, social, and environmental imperatives. This leadership model is critical in climate governance because it aligns leadership responsibility with global climate imperatives such as reducing emissions, fostering resilience, and ensuring just transitions. As climate risks mount, sustainable leadership frameworks are essential for designing governance systems capable of addressing the multi-dimensional nature of climate change (Hargreaves & Fink, 2017).

In the United States, sustainable leadership in climate governance has increasingly taken a distributed form, particularly at the subnational level. States, cities, businesses, and civil society groups have stepped into leadership vacuums created by federal inaction during periods like the Trump administration (2017–2021). The "America's Pledge" initiative, led by former Governor Jerry Brown and Michael Bloomberg, represents a model of distributed sustainable leadership, where local leaders collectively committed to emission reductions in line with the Paris Agreement. This demonstrates how sustainable leadership transcends hierarchical structures by empowering multiple stakeholders to drive climate action collaboratively, making governance systems more adaptive and resilient in the face of federal policy reversals (Hale, 2020).

The United Kingdom's climate governance reflects strong elements of transformational sustainable leadership, particularly through legislative innovation and norm-setting. The UK's 2008 Climate Change Act was a pioneering piece of legislation globally, and its subsequent adoption of a legally binding net-zero emissions target by 2050 illustrates transformational leadership that inspires systemic change (Fankhauser, Averchenkova & Finnegan, 2018). Leaders such as former Energy Secretary Ed Miliband and Climate Change Committee chair Lord Deben have played vital roles in institutionalizing ambitious climate objectives. The hosting of COP26 in Glasgow underlined the UK's leadership role in influencing international norms and elevating climate ambition globally, a hallmark of transformational sustainable leadership that seeks not merely to manage change but to drive profound systemic evolution.

Japan demonstrates a model of technocratic sustainable leadership within climate governance, relying heavily on scientific expertise, technological innovation, and administrative efficiency to drive climate initiatives. The Japanese government's 2020 pledge to achieve carbon neutrality by 2050 builds on a tradition of meticulous energy efficiency policies and large-scale investments in green technologies such as hydrogen fuel and carbon capture (Sugiyama, 2021). Technocratic leadership is particularly evident in Japan's Ministry of Environment and the Ministry of Economy, Trade and Industry, which orchestrate climate policy through detailed strategic roadmaps. Although sometimes criticized for slow political mobilization, Japan's

emphasis on scientific rigor and technological solutions showcases how sustainable leadership can leverage technical expertise for long-term environmental stewardship.

In Brazil, sustainable leadership models are increasingly intertwined with ethical leadership and indigenous governance practices, especially regarding climate governance of the Amazon rainforest. Indigenous leaders such as Sônia Guajajara have brought global attention to the sustainable stewardship practices of indigenous communities, arguing for their essential role in preserving biodiversity and mitigating climate change (Rajão et al., 2020). President Lula's new administration pledges to center indigenous rights and environmental protection in Brazil's climate governance approach, moving away from the extractive and short-term models favored under Bolsonaro. Sustainable leadership here requires ethical commitment to environmental justice, recognition of indigenous sovereignty, and equitable participation in governance structures, showing that leadership rooted in local knowledge systems is vital for effective climate action.

In Sub-Saharan Africa, adaptive sustainable leadership models have emerged as countries navigate climate vulnerabilities with limited resources. Adaptive leadership is characterized by flexibility, learning, and iterative governance in the face of uncertainty. Countries such as Kenya and Rwanda have institutionalized National Adaptation Plans (NAPs) and Climate Resilience Strategies that evolve dynamically with new scientific insights and community feedback (Ajayi et al., 2022). For example, Kenya's Climate Change Act of 2016 mandated regular policy updates to reflect changing environmental and socioeconomic conditions. This model emphasizes the importance of participatory governance, responsiveness, and empowerment of local actors, aligning with the sustainable leadership imperative of fostering resilient, inclusive, and future-ready societies.

Sustainable leadership models are increasingly characterized by collaboration across sectors, borders, and disciplines. The Paris Agreement itself is a testament to collaborative climate governance, founded on nationally determined contributions (NDCs) that encourage decentralized yet collective action. In the USA, initiatives like "We Are Still In" represent bottom-up collaborative leadership models, while in the UK, coalitions between government, industry, and civil society have been instrumental in scaling renewable energy deployment. In Japan, public-private partnerships are central to advancing green innovation, and Brazil's new Amazon Fund partnerships demonstrate collaborative leadership in action. Sustainable leadership thus requires fostering coalitions, networks, and partnerships that enhance collective capacity to address climate change (Chan, Falkner, R., Goldberg & van Asselt, 2018).

Justice-centered leadership is a vital component of sustainable leadership, particularly in climate governance, where vulnerable populations often bear disproportionate risks. In the USA, frameworks like the Justice40 Initiative launched under the Biden administration aim to ensure that 40% of federal climate investment benefits disadvantaged communities (Patterson, Thaler, Hoffmann, Hughes, Oels, Chu & Nalau, 2021). In the UK, just transition frameworks guide policies to ensure that workers affected by the energy transition are supported. In Sub-Saharan Africa, leadership that centers climate justice is crucial, considering the region's minimal contribution to global emissions yet extreme vulnerability. Sustainable leadership models must therefore integrate distributive, procedural, and intergenerational justice principles to be truly effective in the climate governance sphere.

The COVID-19 pandemic underscored the need for resilient sustainable leadership capable of managing compound crises, including climate change. Leaders in climate governance had to adapt swiftly, integrating health, social, and environmental policies into comprehensive

recovery strategies. The USA's Build Back Better agenda, Japan's Green Growth Strategy post-pandemic, and South Africa's Just Energy Transition Investment Plan all illustrate leadership efforts to embed resilience into recovery processes. Sustainable leadership thus must embrace resilience-thinking, ensuring that governance systems can absorb shocks, learn from crises, and emerge stronger. This resilience imperative applies across sectors and geographies, highlighting the systemic, forward-looking ethos central to sustainable leadership (Schlosberg, Collins & Niemeyer, 2022).

Moving forward, sustainable leadership must deepen integration across global governance systems, promote intersectoral cooperation, and elevate marginalized voices. Technological innovation must be balanced with social innovation, ensuring that climate solutions are equitable and context-sensitive. Leaders in countries like the USA, UK, Japan, Brazil, and across Africa must prioritize participatory governance, transparent accountability, and cross-cultural learning to advance effective climate governance (Pattberg & Widerberg, 2016). Building leadership capacity at all levels—from local communities to international bodies—is essential for sustaining momentum on climate action. Only through diverse, adaptive, justice-centered, and resilient leadership models can humanity hope to navigate the challenges of the Anthropocene era.

1.1 Statement of the Problem

Despite widespread global recognition of the need for sustainable leadership in climate governance, the current models remain fragmented, context-specific, and often inadequately equipped to address the escalating urgency of the climate crisis. According to the United Nations Environment Programme (UNEP), the world is on track for a catastrophic temperature rise of over 2.9°C by the end of the century, far exceeding the Paris Agreement target of 1.5°C, unless unprecedented action is taken (UNEP, 2023). Sustainable leadership is essential in achieving coherent, inclusive, and adaptive governance structures capable of facilitating transformational change, yet there is a lack of a unified global framework that integrates diverse leadership approaches across different regions such as the USA, United Kingdom, Japan, Brazil, and Sub-Saharan Africa. Existing leadership models frequently focus on either the environmental or socio-political dimensions of climate action without adequately addressing the systemic interplay between economic, environmental, and social resilience, highlighting a pressing need for a holistic perspective that bridges these gaps (UNEP, 2023).

There remains a significant research gap regarding comparative analyses of sustainable leadership models and how these can be effectively contextualized to enhance climate governance globally. Much of the existing literature focuses either on sector-specific leadership (e.g., corporate sustainability initiatives) or national policy frameworks without sufficiently interrogating the cross-national learning opportunities or failures. Additionally, there is minimal research exploring how leadership models can adapt dynamically to different levels of economic development, political culture, and societal needs, especially in emerging economies and vulnerable regions like Sub-Saharan Africa. This study aims to fill these gaps by providing a global comparative analysis of sustainable leadership models, investigating their design, implementation, and effectiveness in advancing climate governance. It will particularly focus on how sustainable leadership can foster resilience, equity, and long-term environmental stewardship in both Global North and Global South contexts, thereby enriching the global dialogue on transformative climate action (Averchenkova, Fankhauser & Finnegan, 2019).

The findings of this study will benefit a wide range of stakeholders, including policymakers, climate activists, business leaders, international development organizations, and academic

researchers. Policymakers will gain strategic insights into best practices and contextualized leadership models that can be adapted to strengthen national and local climate governance frameworks. Climate activists and civil society organizations will be empowered with evidence-based leadership strategies to advocate for more effective, inclusive, and just climate action. Business leaders, particularly those in sectors critical to decarbonization efforts, will learn how sustainable leadership can drive corporate responsibility and align business strategies with global climate targets. Moreover, academic researchers will benefit from a richer theoretical and empirical foundation to further investigate leadership paradigms in sustainability sciences. By fostering cross-regional learning and offering actionable recommendations, this study aspires to catalyze a new generation of sustainable leaders capable of navigating the complexities of global climate governance (Pereira, Karpouzoglou, Doshi & Frantzeskaki, 2020).

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Transformational Leadership Theory

Transformational Leadership Theory, originally conceptualized by James MacGregor Burns in 1978, and later expanded by Bernard M. Bass, focuses on leaders who inspire, motivate, and elevate followers to achieve extraordinary outcomes by aligning organizational or societal goals with higher moral and ethical standards. The core theme of this theory is centered on leadership that fosters significant change not just within organizations but across society at large by appealing to shared values, vision, and innovation. In the context of sustainable leadership models for climate governance, transformational leadership is crucial because it empowers leaders to mobilize collective action against climate change, motivate stakeholders to go beyond short-term interests, and drive system-wide sustainability reforms. Particularly at a global level, leaders who exhibit transformational traits can influence climate governance by promoting policies that transcend political boundaries and advocate for intergenerational equity. Their ability to inspire societal shifts towards sustainable practices is indispensable in creating resilient frameworks for climate action in countries like the USA, United Kingdom, Japan, Brazil, and throughout Sub-Saharan Africa. Recent research emphasizes that transformational leadership has been linked to greater organizational commitment to sustainability goals and innovation in climate action strategies, thus reinforcing its theoretical relevance to climate governance initiatives (Ng & Burke, 2020).

2.1.2 Institutional Theory

Institutional Theory, formalized by scholars such as John W. Meyer and Brian Rowan in the late 1970s, and later developed by Paul J. DiMaggio and Walter W. Powell in the 1980s, addresses how institutions shape organizational behavior by embedding rules, norms, and practices that actors within a system must conform to for legitimacy. The main theme of Institutional Theory is that organizations and governments are heavily influenced by the cultural and normative frameworks of the societies they operate within, leading them to adopt structures and practices that are deemed legitimate, rational, or appropriate by external actors, even if not always the most efficient. In applying Institutional Theory to sustainable leadership and climate governance, it becomes apparent that leaders must not only innovate internally but also navigate and shape institutional pressures to promote environmental sustainability on a global scale. This is particularly relevant for understanding how different countries—ranging from highly institutionalized governance systems in the UK and Japan to emerging frameworks

in Sub-Saharan Africa—respond to international climate agreements and societal expectations. Sustainable leadership, therefore, requires an acute awareness of institutional dynamics, leveraging them to legitimize and normalize sustainable practices across diverse governance systems. Recent studies underline the increasing importance of institutional entrepreneurship in climate governance, wherein leaders act to reshape institutions themselves to better accommodate sustainable outcomes (Greenwood, Hinings & Whetten, 2017).

2.1.3 Stewardship Theory

Stewardship Theory, proposed by Donaldson and Davis in 1991, presents a leadership paradigm where leaders, acting as stewards, are motivated not by personal gain but by a strong sense of duty and commitment to the well-being of the organization and broader society. Unlike agency theory, which views leaders as self-serving, Stewardship Theory posits that leaders naturally prioritize long-term interests, collective goals, and sustainable outcomes. The central theme revolves around trust, empowerment, ethical responsibility, and intrinsic motivation toward organizational and societal good. In the domain of sustainable leadership models for climate governance, Stewardship Theory offers a compelling framework for understanding how leaders can transcend individualistic or short-term political interests to champion broader environmental sustainability goals. Stewardship-minded leaders are more likely to promote climate justice, intergenerational equity, and long-term resilience, making this theory particularly suitable for analyzing climate governance strategies across diverse political and economic systems. As global leaders face mounting pressure to deliver urgent climate solutions, stewardship-oriented leadership becomes pivotal in fostering transparency, inclusive decision-making, and a culture of environmental custodianship—essential characteristics for effective climate governance in countries like the USA, UK, Japan, Brazil, and Sub-Saharan Africa. Empirical research has increasingly validated the link between stewardship behaviors and sustainability-oriented governance outcomes, further affirming the theory's applicability to contemporary climate challenges (Hernandez, 2019).

2.2 Empirical Review

Averchenkova, Fankhauser & Finnegan (2019) aimed to explore the role of independent bodies like the UK's Committee on Climate Change (CCC) in enhancing sustainable climate governance through leadership models based on expertise, transparency, and long-term vision. The researchers employed a qualitative case study approach using document analysis and in-depth interviews with policymakers and CCC members. The study found that independent advisory bodies significantly strengthened sustainable climate leadership by ensuring evidence-based policy recommendations, fostering political accountability, and maintaining momentum across electoral cycles. The authors recommended that countries globally should institutionalize similar independent advisory bodies to enhance the credibility, stability, and continuity of climate leadership. They emphasized tailoring models to local political and cultural contexts to ensure effectiveness.

Burch & Di Bella (2020) examined how local government leadership in North America is shaping climate governance, focusing on sustainable models that integrate community engagement and multi-level partnerships. The study used mixed methods, combining surveys of local government officials with comparative case studies from U.S. and Canadian cities. They found that local leadership emphasizing inclusivity, adaptability, and strategic partnerships resulted in more resilient and sustainable climate governance frameworks. They also found gaps in capacity building and financing. They recommended enhanced investment

in local leadership training and greater decentralization of resources and authority to local governments to catalyze climate governance from the ground up.

Pereira, Karpouzoglou, Doshi & Frantzeskaki (2020) investigated how leadership models that facilitate "safe spaces" contribute to transformative climate governance initiatives, especially in developing countries. The researchers conducted ethnographic fieldwork, participatory action research, and semi-structured interviews in South Africa, Kenya, and India. They concluded that leadership models that prioritize reflexivity, co-creation, and experimentation significantly enhance the legitimacy and effectiveness of climate governance processes. The study recommended institutionalizing mechanisms for sustained stakeholder dialogue, flexible policy frameworks, and leadership training centered on transformative learning principles.

Hoffmann (2016) explored transnational climate governance and leadership beyond the state, focusing on how sustainable leadership models emerge within non-state actors such as NGOs, corporations, and city networks. A comparative analysis was conducted using data from 60 climate governance initiatives operating at transnational levels, employing document reviews and network analysis. The study found that leadership through collaboration, networked governance, and shared visions were key drivers for sustainable climate outcomes across non-state initiatives. Hoffmann recommended that global climate strategies should formally recognize and integrate non-state actors into international climate frameworks to enhance collective climate governance.

Abeygunawardena & Jinadasa (2021) examined how sustainable leadership practices in Asian countries (Japan, India, and Sri Lanka) have influenced national climate adaptation and mitigation strategies. The researchers conducted a cross-country policy analysis using structured content analysis of national climate plans and leadership interviews. The study highlighted that sustainable leadership practices anchored in cultural values of resilience, innovation, and stewardship enhanced the effectiveness of national climate governance frameworks. However, disparities in financial and technical capacities posed limitations. They recommended capacity-building initiatives, south-south cooperation, and more significant emphasis on community-driven leadership models for climate governance.

Bettini & Gioli (2016) sought to understand how leadership narratives in climate governance contribute to migration policies in Sub-Saharan Africa and South Asia, focusing on sustainable adaptation models. Utilizing qualitative discourse analysis, the authors analyzed speeches, policy documents, and conducted elite interviews with policymakers and development experts. The study found that leadership narratives that framed migration as adaptation rather than failure promoted more humane, sustainable climate governance policies. Bettini and Gioli recommended reframing leadership communication strategies to emphasize resilience and adaptive capacity while promoting ethical governance frameworks that protect vulnerable populations.

Newell, Pattberg & Schroeder (2016) analyzed how different governance models and leadership strategies influence the legitimacy and effectiveness of climate governance, particularly in emerging economies like Brazil, South Africa, and India. A combination of case studies, comparative governance analysis, and semi-structured interviews with climate policymakers was employed. They concluded that hybrid governance models blending state and non-state leadership mechanisms proved most sustainable, especially where political will and civil society activism aligned. They also identified a lack of inclusivity and accountability in many models as major challenges. The authors recommended promoting greater

transparency, participatory mechanisms, and cross-sectoral partnerships as critical enhancements to current leadership models for climate governance.

3.0 METHODOLOGY

The study adopted a desktop research methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

4.0 FINDINGS

This study presented both a contextual and methodological gap. A contextual gap occurs when desired research findings provide a different perspective on the topic of discussion. For instance, Bettini & Gioli (2016) sought to understand how leadership narratives in climate governance contribute to migration policies in Sub-Saharan Africa and South Asia, focusing on sustainable adaptation models. Utilizing qualitative discourse analysis, the authors analyzed speeches, policy documents, and conducted elite interviews with policymakers and development experts. The study found that leadership narratives that framed migration as adaptation rather than failure promoted more humane, sustainable climate governance policies. Bettini and Gioli recommended reframing leadership communication strategies to emphasize resilience and adaptive capacity while promoting ethical governance frameworks that protect vulnerable populations. On the other hand, the current study focused on examining sustainable leadership models for climate governance.

Secondly, a methodological gap also presents itself, for example, in seeking to understand how leadership narratives in climate governance contribute to migration policies in Sub-Saharan Africa and South Asia, focusing on sustainable adaptation models- Bettini & Gioli (2016) utilized qualitative discourse analysis, the authors analyzed speeches, policy documents, and conducted elite interviews with policymakers and development experts. Whereas, the current study adopted a desktop research method.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study concluded that sustainable leadership models were critical drivers for effective and resilient climate governance at global, national, and local levels. Leadership approaches that emphasized inclusivity, long-term vision, evidence-based decision-making, and participatory governance had demonstrated notable success in enhancing climate action outcomes. Across different contexts, from developed countries like the United States and the United Kingdom to emerging economies in Sub-Saharan Africa and Brazil, sustainable leadership helped bridge gaps between policy formulation and practical implementation. Leaders who were able to foster collaboration across sectors, build trust, and adapt to evolving socio-ecological challenges had proven particularly effective in advancing climate governance agendas, signaling the growing recognition that leadership sustainability was integral to environmental sustainability.

Furthermore, the study established that institutional frameworks supporting independent advisory bodies, multilevel partnerships, and community-driven initiatives greatly strengthened climate leadership. These structures enabled leaders to transcend short-term political interests and focus on long-term societal and environmental benefits. It was observed

that when leadership models integrated scientific expertise, indigenous knowledge, and stakeholder engagement, climate governance processes became more legitimate, transparent, and resilient. These findings underscored the idea that leadership could no longer be exercised through traditional hierarchical models but rather through networked, flexible, and collaborative approaches that reflected the complexity of climate challenges.

The study also revealed that significant disparities persisted between regions in terms of leadership capacity, financing, and institutional support for sustainable climate governance. While countries like Japan and the United Kingdom exhibited robust leadership frameworks underpinned by strong regulatory institutions and resources, many Sub-Saharan African nations struggled with limited financial, technical, and human capital to sustain leadership efforts. This asymmetry highlighted the pressing need for global support mechanisms to enhance leadership models in vulnerable contexts. The research concluded that without deliberate efforts to nurture leadership capacity at all governance levels, global climate goals such as those outlined in the Paris Agreement would remain difficult to achieve.

It was concluded that sustainable leadership models must evolve continuously to remain relevant in addressing the complex, dynamic, and interconnected challenges of climate change. The research pointed out that leadership should not only be seen as a position of authority but as a set of competencies that could be cultivated across society. Climate governance, therefore, required transformative leadership capable of inspiring innovation, facilitating knowledge exchange, and building resilience across multiple sectors and stakeholders. This conclusion set a foundation for proposing recommendations that would enhance theory, practice, and policy in sustainable leadership and climate governance globally.

5.2 Recommendations

The study recommended that future theoretical development should focus on building integrated frameworks that combined leadership theories from sustainability science, environmental governance, and political ecology. Existing leadership theories, while insightful, often failed to fully account for the complex, adaptive nature of climate governance systems. It was suggested that theories emphasizing systems thinking, complexity leadership, and adaptive governance should be expanded and more deeply linked to empirical evidence from diverse global contexts. By advancing more nuanced and context-sensitive theoretical models, scholars would be better equipped to explain how sustainable leadership emerged, evolved, and impacted climate governance outcomes across different regions and scales.

In terms of practical application, the study recommended that governments, organizations, and civil society actors invest significantly in leadership development programs tailored specifically for climate governance. Leadership competencies such as strategic foresight, emotional intelligence, collaborative problem-solving, and cross-cultural communication were identified as critical areas for capacity building. It was also recommended that such programs should be inclusive, targeting underrepresented groups such as women, indigenous leaders, and youth, thereby ensuring a diversity of perspectives and approaches in climate governance. Enhancing leadership practice at the grassroots level would empower communities to initiate and sustain locally-driven climate solutions, while fostering ownership and accountability.

From a policy standpoint, the study strongly recommended that national and international climate frameworks should institutionalize mechanisms that promoted sustainable leadership. These mechanisms could include the establishment of independent advisory bodies, climate leadership councils, and multi-stakeholder platforms for participatory decision-making. Policy

frameworks should mandate long-term strategic planning cycles beyond electoral terms, ensuring that climate policies remained consistent and resilient despite political transitions. Moreover, international development agencies and climate finance institutions were encouraged to prioritize leadership development in their funding and technical assistance programs, recognizing that strong leadership was a prerequisite for effective climate action.

The study contributed to theory by highlighting the importance of leadership models that integrated multi-actor, multi-level, and adaptive governance approaches. It demonstrated that leadership in climate governance was not static but dynamic, requiring constant evolution in response to shifting environmental, social, and political landscapes. This insight challenged traditional hierarchical leadership theories and called for new paradigms that reflected the distributed, networked, and collaborative nature of climate leadership. The research thus enriched the theoretical discourse on sustainability leadership and provided a basis for future interdisciplinary exploration.

In terms of contributions to practice, the study illuminated concrete pathways for strengthening leadership at all levels of climate governance. It provided evidence that leadership training, participatory governance mechanisms, and strategic partnerships were key levers for building more resilient and sustainable climate governance systems. By documenting best practices from a diverse array of contexts, the study offered a practical guide for practitioners seeking to enhance leadership effectiveness in their own settings. These practical insights were particularly valuable for local governments, non-governmental organizations, and community-based organizations striving to bridge the gap between policy and action.

Finally, the study's contribution to policy was significant in advocating for systemic changes that embedded leadership sustainability into climate governance structures. By demonstrating the effectiveness of institutional innovations such as independent climate advisory bodies and multi-stakeholder councils, the study offered policymakers concrete models to emulate. It also emphasized the need for policies that fostered leadership development as an ongoing process rather than a one-off intervention. Policymakers at national, regional, and international levels were urged to rethink how leadership was cultivated, supported, and sustained within the climate governance ecosystem to achieve transformative and enduring climate outcomes.

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